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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,752	07/13/2001	Noriyuki Kawano	211402US2	2054

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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ORTIZ CRIADO, JORGE L

ART UNIT	PAPER NUMBER
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2627

NOTIFICATION DATE	DELIVERY MODE
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08/10/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 09/903,752	<b>Applicant(s)</b> KAWANO, NORIYUKI	
	<b>Examiner</b> Jorge L. Ortiz-Criado	<b>Art Unit</b> 2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7, 22-31, 42 and 49-56 is/are pending in the application.
- 4a) Of the above claim(s) 22-31 and 51-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 42, 49 and 55-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/25/2007 has been entered.

### ***Election/Restrictions***

Newly submitted amended claims 22-31 and 51-54 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claims 22-31 and 51-54 are drawn to patentably distinct non-elected Species (c), of Figures 18-23. Election of Species (a), Figures 1-10 and 13A-13B, was made in the reply filed 12/24/2003.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 22-31 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 42, 49 and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izuka U.S. Patent No. 5,666,235 in view of Ikegame Japanese Publication. No. 10-116431.

Regarding claim 1, Izuka discloses an objective lens drive apparatus configured to be used in an optical pickup (See Abstract), comprising:

a magnetic circuit comprising a first and second magnets (47, 48) separated from one another by a single gap, the first and second magnets providing a magnetic field relative to said single gap (See Figs. 9,10); and

a coil unit (28) comprising a single laminate structure disposed for operative interaction with the magnetic field of the single gap, said single laminate structure including at least one focus coil (31) configured to provide focusing movement of the single laminate structure due current in the at least one focus coil interacting with the magnetic field of said gap, at least one tracking coil (34) configured to provide tracking movement of the single laminate structure different from the focusing movement due to current in the at least one tracking coil interacting with the magnetic field of said gap (See Figures 11-12), and

an objective lens connected to the single laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens, the objective lens is disposed outside of the single gap in which the laminate structure is disposed (see col. 11, line 41 to col. 12, line 43).

Izuka fails to disclose at least one tilt coil.

However this feature is well known in the art as evidenced by Ikegame, which discloses an objective lens drive apparatus configured to be used in an optical pickup (See Abstract), comprising: a magnetic circuit comprising a first and second magnets separated from one another by single gap; (See Detailed description [0033]; Figs. 11, 12, ref# 8,9); and a coil unit comprising a laminate structure (See detailed description [0028]; Figs. 12 ref# 23,24) including a focus coil (See detailed description [0028]; ref # 3), a tracking coil (See detailed description [0028]; Figs. 12, ref # 4) and

at least one tilt coil configured to provide inclination adjusting tilting movement of the laminate structure different from the focusing movement and the tracking movement due to current in the at least one tilt coil interacting with the magnetic field of said single gap, (See detailed description [0028]; Figs. 12, ref # 5,6), the laminate structure is disposed within the gap (See detailed description [0028]; Figs. 11,12), an objective lens connected to the laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens (See [0031]-[0038]; Figs. 11-13, 16).

It would have been obvious to one of an ordinary skill in the art at the time of the invention to include at least a tilt coil to the laminate structure of Izuka, because by doing so the movement of the laminate structure results in a corresponding movement in of the objective lens

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tilt direction, compensating for disturbance of tilt obtaining a stable servo operations in recording as well a reproduction, as taught by Ikegame.

Regarding claims 2, the combination of Izuka and Ikegame show that (see Izuka) the magnetic circuit comprises pairs of magnets (47, 48) (See Figs. 9-10).

Regarding claims 3, the combination of Izuka and Ikegame show that: (see Izuka) the coil unit single laminate structure comprises a plurality of printed circuit boards (28), and the at least one focus coil, the at least one tracking coil and the at least one tilt coil are separately disposed on the printed circuit boards (See col. 21, lines 22-44; Figs. 28-30); or (see Ikegame) the coil unit comprises a printed circuit board, and the focus coil and the tracking coil are disposed on the printed circuit board (See Detailed description [0028]; Figs. 11, 12, ref# 23,24).

Regarding claim 4, the combination of Izuka and Ikegame show that the coil unit single laminate structure comprises a plurality of first and second printed boards, and the at least one focus coil and the at least one tracking coil are disposed on the first printed board and

(see Ikegame) the at least one tilt coil is disposed on the second printed boards (See Detailed description [0028]; Figs. 11, 12, ref# 23,24); or (see Izuka) Figs. 28-30.

Regarding claim 5, the combination of Izuka and Ikegame show that the coil unit single laminate structure comprises a plurality of first and second printed boards, and the at least one focus coil and

(see Ikegame) the at least one tilt coil are mounted on the first printed board and the at least one tracking coil is mounted on the second printed boards (See Detailed description [0028]; Figs. 11, 12, ref# 23,24); (see Izuka) boards 31 and boards 34.

Regarding claim 6, the combination of Izuka and Ikegame show that (see Izuka) the coil unit comprises only one focus coil (131), and even number of the tracking coils (134) and

(see Ikegame) two tilt coils (See detailed description [0028]; Figs. 11,12) and wherein the magnet is magnetized in two polarities in a focus adjustment direction (See Ikegame Detailed description [0033]; Figs. 11, 12, 13 ref# 8,9 or see Izuka Figs 22-27).

Regarding claim 7, in regard to the limitation as in claim 7 of the coil unit comprises an even number of focus coils, only one tracking coil, wherein the magnet is magnetized in two polarities in a tracking adjustment direction, as in claim 6, the combination of Izuka and Ikegame show that (see Izuka) the coil unit comprises only one focus coil (131), and even number of the tracking coils (134), wherein the magnets are magnetized in two polarities in a focus direction. Because these two limitations are believed to be art-recognized equivalents at the time of the invention in structures, one of ordinary skill in the art would have found this rearrangement of parts obvious. In support for such equivalence see the prior art made of record Japanese Publication No. 07-105552 to Kubo. Furthermore, it has been held that rearranging parts of an invention involves only routine skill in the art.

Assuming *arguendo* that the above is not art recognized equivalents at the time of the invention, claim 7 is rejected further in view of Kubo as recited below.

Kubo discloses such recognitions of arrangements between focus coils, tracking coils and magnet, see Figs. 1-8, which shows an arrangement as recited in claim 7 and see figures 9-11 which shows the equivalence arrangement as recited in claim 6.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izuka U.S. Patent No. 5,666,235 in view of Ikegame Japanese Publication. No. 10-116431 and further in view of Kubo Japanese Publication. No. 07-105552.

As outlined in the above combination of Izuka and Ikegame, Ikegame shows two of the tilt coils (See detailed description [0028]; Figs. 11,12).

Kubo discloses an objective lens drive apparatus configured to be used in an optical pickup, comprising: a magnetic circuit comprising, a coil unit comprising a "laminate" structure including a focus coil, a tracking coil, the "laminate, and an objective lens connected to the laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens, the objective lens is disposed outside of a gap in which the laminate structure is disposed and the coil unit comprises an even number of focus coils (19/23), only one tracking coil (20), and wherein the magnets are magnetized in two polarities in a tracking direction (Figs. 1-8).

It would have been obvious to one of an ordinary skill in the art at the time of the invention to include a coil unit comprises an even number of focus coils, only one tracking coil,



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and wherein the magnets are magnetized in two polarities in a tracking direction in order to obtain an optimum desired servo actuation that provides such configuration of coils and magnet, obtaining the desired recording and reproducing servo operation for focus and tracking errors, and making driving of the pickup efficient, as taught by Kubo.

Regarding claim 42, claim 42 have limitations similar to those treated in the above rejection(s) with claims 1, and are met by the references as discussed above. Claim 42 however also recites the following limitations lens holder and met by the references above (see holder 25 Fig. 9 of Izuka).

Regarding claims 49 and 55, the combination of Izuka and Ikegame shows that the at least one focus, tilt and tracking coils are disposed on a plurality of circuit boards, the plurality of circuits boards forming the "laminate" structure with one another, as outlined in the above rejections.

Regarding claim 56, the combination of Izuka and Ikegame shows that only one laminate structure including the focus, tracking and tilt coils is disposed in the gap, as outlined in the above rejections.

*Response to Arguments*

Applicant's arguments filed 07/25/2007 have been fully considered but they are not persuasive.

Applicant argues that there is no reasonable suggestion in Ikegame pointing to the subject matter of Claim 1 or that suggests some reasonable modification to Izuka without changing the basic operating principles of Izuka and requiring a redesign to augment the dual gaps and dual laminated structures of Ikegame; and that Ikegame is incompatible with the teachings of Izuka.

The examiner cannot concur with the Applicant, because the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

In this case, Ikegame suggest and teach the use of a tilt coil disposed in a gap configured to provide inclination adjusting tilting movement of the laminate structure different from the focusing movement and the tracking movement for compensating for disturbance of tilt.

One of an ordinary skill in the art would find obvious the addition of a tilt coil, because using a single laminate structure within a single gap was at the time of the invention well established technique and known in the art, as evidenced by Izuka in the outlined above rejections. Hence, the addition of tilt coil will not require a redesign to augment the dual gaps "dual laminated structures" as asserted by the Applicant.

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Furthermore, prior art reference teaches away from claimed invention if it suggests that developments flowing from its disclosures are unlikely to produce objective of invention, and what reference teaches person of ordinary skill in art is not limited to what reference specifically talks about or what is specifically mentioned or written in reference. *Syntex (U.S.A.) LLC v. Apotex Inc.*, 74 USPQ2d 1823 (CA FC 2005); *In re Gurley*, 27 F.3d 551, 553 [31 USPQ2d 1130] (Fed. Cir. 1994).

The obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art and KSR forecloses the argument that a specific teaching, suggestion, or motivation is required to support a finding of obviousness. *Ex parte Smith*, USPQ2d, slip op. at 20, (Bd, Pat. App. & Interf. June 25, 2007) (citing KSR, 82 USPQ2d at 1396).


Applicant arguments in regard to claims 22-31 and 51-54 are moot, because claims 22-31 are withdrawn from consideration as being directed to a non-elected invention, as outlined above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jorge L. Ortiz-Criado whose telephone number is (571) 272-7624. The examiner can normally be reached on Mon.-Fri 10:00 am- 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jorge L Ortiz-Criado  
Patent Examiner